

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number  
**WO 2005/068399 A1**

(51) International Patent Classification<sup>7</sup>: C04B 41/45, C08K 3/34, 5/54, 5/541, C09D 183/04, 183/02, 185/00

(74) Agent: GRIFFITH HACK; GPO Box 4164, SYDNEY, New South Wales 2001 (AU).

(21) International Application Number:  
PCT/AU2005/000042

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NL, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 14 January 2005 (14.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(30) Priority Data:  
2004900174 15 January 2004 (15.01.2004) AU

## Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(71) Applicant (*for all designated States except US*): UNISEARCH LIMITED [AU/AU]; Rupert Myers Building, Gate 14, Barker Street, UNSW, Sydney, New South Wales 2052 (AU).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): ZHANG, Hua [AU/AU]; School of Chemistry, University of New South Wales, SYDNEY, New South Wales 2052 (AU). LAMB, Robert Norman [AU/AU]; School of Chemistry, University of New South Wales, SYDNEY, New South Wales 2052 (AU).

WO 2005/068399 A1

(54) Title: METHOD OF MAKING A SURFACE HYDROPHOBIC

(57) Abstract: The present invention provides a method for rendering a microstructured surface of a substrate hydrophobic. The method comprises a first step of applying to the microstructured surface a coating composition capable of forming a hydrophobic coating having a nanoscale roughness on the microstructured surface. The composition is then cured to form a hydrophobic coating having a nanoscale roughness on the microstructured surface. The resultant surface has both nanoscale roughness and microscale roughness.